

**Abstract**

An autosensor or other communication system processing device determines which of a number of available link variants is required for a particular communication link that couples customer premises equipment (CPE) or another type of device to a network. The autosensor examines responses to messages sent over the link in order to determine one or more link variants associated therewith. The CPE or other device may then be automatically configured to support the determined link variant(s), e.g., by activation of an appropriate protocol entity in the CPE or other device. For example, CPE may be coupled to a network via an Asynchronous Transfer Mode (ATM) virtual circuit (VC) established over a digital subscriber line (DSL). In such an arrangement, multiple protocols may be encapsulated within the ATM cells, with each of the multiple protocols corresponding to a link variant. The CPE in this case may correspond to an ADSL termination unit-receive (ATU-R) device, or other type of gateway. The autosensor performs a series of tests to determine the link variant(s) for the VC, and the CPE or another network device which communicates with the CPE is then adjusted accordingly.